Date: Tue, 6 Apr 93 14:51:57 PDT

From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>

Errors-To: Info-Hams-Errors@UCSD.Edu

Reply-To: Info-Hams@UCSD.Edu

Precedence: Bulk

Subject: Info-Hams Digest V93 #420

To: Info-Hams

Info-Hams Digest Tue, 6 Apr 93 Volume 93 : Issue 420

Today's Topics:

ARRL DX Bulletin #16 - 2 April 1993

AURORA WARNING: Middle Latitude Auroral Activity Warning AURORA WATCH: Middle Latitude Auroral Activity Watch

DXing 'n stuff HAM-server INFO file Q values. RACES Bulletin #268

Two-Line Orbital Element Set Format WARNING: Potential Geomagnetic Storm Warning

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu> Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu> Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available (by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text herein consists of personal comments and does not represent the official policies or positions of any party. Your mileage may vary. So there.

Date: Fri, 2 Apr 1993 05:13:45 MST

From: access.usask.ca!kakwa.ucs.ualberta.ca!alberta!nebulus!ve6mgs!

usenet@decwrl.dec.com

Subject: ARRL DX Bulletin #16 - 2 April 1993

To: info-hams@ucsd.edu

ZCZC AE42 QST de W1AW DX Bulletin 16 ARLD016

Date: 5 Apr 93 05:04:24 GMT From: news-mail-gateway@ucsd.edu

Subject: AURORA WARNING: Middle Latitude Auroral Activity Warning

To: info-hams@ucsd.edu

MIDDLE LATITUDE AURORAL ACTIVITY WARNING

ISSUED: 05:00 UT, 05 APRIL

VALID UNTIL: 19:00 UTC ON 05 APRIL

HIGH RISK PERIOD: 05 Apr - 06 Apr (UT days)

MODERATE RISK PERIOD: 05 Apr - 07 Apr

PREDICTED ACTIVITY INDICES FOR NEXT 3 DAYS: 50, 35, 20 (05 - 07 APR)

(INPUT INTO THE PREDICTIVE AURORA SOFTWARE *)

POTENTIAL MAGNITUDE OF MIDDLE LATITUDE AURORAL ACTIVITY: MODERATE

POTENTIAL LUNAR INTERFERENCE: HIGH

OVERALL OPPORTUNITY FOR OBSERVATIONS FROM MIDDLE LATITUDES: FAIR

AURORAL ACTIVITY _MAY_ BE OBSERVED APPROXIMATELY NORTH OF A LINE FROM...

SOUTHERN WASHINGTON TO CENTRAL OR SOUTHERN IDAHO TO SOUTHERN MONTANA TO SOUTH DAKOTA TO SOUTHERN MINNESOTA TO WISCONSIN TO MICHIGAN TO PARTS OF NEW YORK STATE TO NEW JERSEY.

THE U.K., AND NORTHERN PARTS OF EUROPE INCLUDING ALL OF NORWAY, SWEDEN, AND FINLAND, INTO NORTHERN RUSSIA MAY ALSO SPOT ACTIVITY.

AREAS OF SOUTHERN AUSTRALIA AND SOUTHERN NEW ZEALAND MAY ALSO BE ABLE TO SPOT PERIODS OF ACTIVITY.

* Contact: Oler@Rho.Uleth.CA or COler@Solar.Stanford.Edu for more information regarding the Auroral Activity Prediction and Simulation Software.

SYNOPSIS...

Auroral activity has intensified and is now visible over the northern tier of the U.S. states. Conditions are expected to remain favorable for observing periods of auroral activity over the middle latitudes for the next 24 to 36 hours. Lunar interference will hamper attempts to view activity and will drown out a substantial amount of detail. Nevertheless, this may be a good opportunity for some over the middle latitudes to observe activity. Dark sky sites are essential given the magnitude of lunar interference which exists.

This warning will remain active until 19:00 UT on 07 April when it will either be updated or allowed to expire.

** End of Warning **

Date: 4 Apr 93 23:40:43 GMT From: news-mail-gateway@ucsd.edu

Subject: AURORA WATCH: Middle Latitude Auroral Activity Watch

To: info-hams@ucsd.edu

MIDDLE LATITUDE AURORAL ACTIVITY WATCH

ISSUED: 23:00 UT, 04 APRIL

VALID UNTIL: 19:00 UTC ON 07 APRIL

MODERATE RISK PERIOD: 05 - 07 APRIL (UT days)

PREDICTED ACTIVITY INDICES FOR NEXT 3 DAYS: 32, 27, 20 (05 - 07 APR)

(INPUT INTO THE PREDICTIVE AURORA SOFTWARE *)

POTENTIAL MAGNITUDE OF MIDDLE LATITUDE AURORAL ACTIVITY: LOW - MODERATE

EXPECTED LUNAR INTERFERENCE: HIGH

OVERALL OPPORTUNITY FOR OBSERVATIONS FROM MIDDLE LATITUDES: FAIR TO POOR

AURORAL ACTIVITY MAY BE OBSERVED APPROXIMATELY NORTH OF A LINE FROM...

MOST OF THE NORTHERN U.S. STATES AND SOUTHERN CANADA FROM SOUTHERN BRITISH COLUMBIA TO CENTRAL MONTANA TO NORTH DAKOTA DAKOTA TO MINNESOTA TO MICHIGAN TO NORTHERN NEW YORK STATE TO SOUTHERN MAINE AND POSSIBLY PARTS OF NEW HAMPSHIRE.

ACTIVITY MAY ALSO BE OBSERVED APPROXIMATELY NORTH OF A LINE FROM...

NORTHERN U.K. TO THE NORTHERN EUROPEAN REGIONS INCLUDING MUCH OF THE NORTHERN AND CENTRAL PARTS OF NORWAY, SWEDEN AND FINLAND, TO NORTHERN RUSSIA. THERE IS AN OUTSIDE CHANCE SOUTHERN AUSTRALIAN AND/OR NEW ZEALAND SITES MAY SPOT PERIODS OF ACTIVITY ON THE SOUTHERN HORIZON, ALTHOUGH ANY ACTIVITY OBSERVED FROM THESE SITES SHOULD BE DIFFUSE AND MOSTLY INACTIVE EXCEPT FOR A FEW POSSIBLE RAYS.

* Contact: Oler@Rho.Uleth.CA or COler@Solar.Stanford.Edu for more information regarding the Auroral Activity Prediction and Simulation Software.

SYNOPSIS...

An interplanetary disturbance that arrived at 14:34 UTC on 04 April has enhanced levels of auroral activity. However, the phase of the moon is substantially limiting the observability of this activity, even though it appears to be moderately energetic. Upper middle latitude regions are expected to be able to spot most of the activity. Lunar interference will hamper attempts to view activity from the central or lower middle latitude regions. This disturbance is expected to last approximately 24 to 36 hours before beginning to subside.

This WATCH will remain active until 19:00 UT on 07 April when it will either be updated or allowed to expire.

> I would define it as your call being in the other guy's log at the

```
> right time and on the right band (in my minor role as a QSL manager,
> I would extend that to "your call, give or take a dit, a day, an hour").
>
> .... (other great stuff deleted)
>
> Derek "up lid" Wills (AA5BT, G3NMX)
> Department of Astronomy, University of Texas,
```

Derek, once again I was about to make essentially your post, when I saw you had already made it :-).

To those who answered Steve's original question, remember it was in the context of a DXpedition - not a 20m ragchew. I have also sat in various pileups for a rare one who was going at a very sloppy 35-40 WPM - sloppy enough that (to use the above example) the call would change from NF6S/KP1 to NF6H/KP1 to NFBH/KPJ (you get the idea). What do you do? Walk away because the DX isn't Mr.(Ms.) Perfect?

Steve made his best effort to copy the call, and asking for a fill is nothing to get hot over. If you were sitting in such a pileup, having trouble copying the call, and the DX showed up as a packet spot, complete with call, wouldn't you use (and they at least try to verify) the information?

Of course, put this in a different context - a contest - where you may have copied DL3B?? and you listen a few minutes and can't get it, but there are 1000 other QSO's waiting for you - you strike it from the log. Period.

Sheesh.

73, Len

Dr. Leonard Kay, KB2R | "But we are not dealing with the Electrical and Computer Engineering | normal world. We are chasing DX."

Northeastern University, Boston | -- W9KNI, 'The Complete DXer'

NU ARC: W1KBN 145.31(-) |

Packet: KB2R@K1EA | #include <disclaimer.h>

Date: Sat, 03 Apr 93 09:26:46 PST

From: usc!wupost!darwin.sura.net!sgiblab!wattres!grafex!news@network.UCSD.EDU

Subject: HAM-server INFO file

To: info-hams@ucsd.edu

All you might ever want to know about the KA6ETB HAM-server

Hardware:

=======

386/25 PC clone Telebit QBlazer modem 10-Meg file space reserverd for archive

Software:

=======

Waffle 1.65 WFSmail 2.03

General Information:

===========

Orders for files are filled between the hours of 0100-0600 daily. This is so those hosts through which the traffic is forwarded are not overloaded. Since we all depend on the generosity of others to carry the mail, it behooves us not to make them angry.

ASCII (text) files are split at about 30,000 bytes or 700 lines (which ever comes first). UUENCODED binary files are split at about 750 lines.

If you are using a PC and you do not have UUDECODE, follow these steps:

- 1. Order UUDECODE.BAS or UUDECODE.C, and UUEXE515.ZIP.
- Compile UUDECODE.BAS or UUDECODE.C on your system.
- Use the resulting executable to UUDECODE UUEXE515.ZIP. UUEXE515 has documentation about UUENCODE/UUDECODE.

You are all set to start ordering binary files from HAM-server.

/hamradio/newfiles/ contains files that have not yet been categorized.

If you order a file and do not get it, check the index to be sure you have spelled the file name correctly. If you have ordered the file correctly, then order a new INDEX, as I may have moved the file to a different directory. The system is still expanding, and I am trying to keep it in managable chunks.

A new INDEX is automatically generated every Sunday.

New files are being added and old files are being changed and updated. You might want to send a order for NEWFILES <date> from time to time, to see what's new. <date> has the form of MM-DD-YY and is required.

Ordering Information:

Send an email to:

HAM-server@GRAFex.Cupertino.CA.US

In the text of the message, place:

HELP
INDEX
GET /hamradio/00-INDEX.TXT

HELP will send you the HAM-server HELP file. This is processed immediately for return delivery.

INDEX will send you an index of the files and the directory they are in. 00-INDEX.TXT is a description of most of the files in INDEX. This file is in a continual state of flux, therefore many of the file names listed therein may not match INDEX, but you can figure it out.

Some Reasons Why Ordered Files Are Not Received:

- 1. Your return path is incorrect. My bounce mailbox fills up quite regularly with messages. And, since the path is incorrect, I cannot contact you to let you know.
- You have spelled the file name incorrectly. Use the file names listed in the INDEX, rather than 00-INDEX.TXT. The later is only a guide.
- 3. The file name has changed since the INDEX was generated. Order a new INDEX.
- 4. Your order was sent to KA6ETB@GRAFex.Cupertino.CA.US, instead of HAM-server@GRAFex.Cupertino.CA.US. File requests sent to me will not be honored (naturally).

--E0F

Date: Mon, 5 Apr 1993 16:02:12 GMT

From: sdd.hp.com!apollo.hp.com!hpwin052!hpqmoea!dstock@network.UCSD.EDU

Subject: Q values.
To: info-hams@ucsd.edu

It's worth looking at the tables for coupled resonator filters in "Zverev" (Handbook of filter synthesis, the original tome of modern filter theory) labelled "3dB DOWN k AND q VALUES" to confuse the uninitiated.

Zverev's tables are each normalised in several ways, you have to process his values to allow for the centre frequency, bandwidth and impedance of the filter you wish to create. Even Q is normalised. If you take the ratio of centre freq to bandwidth of the wanted filter, you have the Q value that all others are normalised to. If you measure or even estimate the unloaded Q that you could achieve in your resonator design, and divide it by the filter's normalising value, you have a factor showing (in loose language) what factor your resonators are better than the finished circuit. Zverev provides sets of values for several different values of this factor, which he calls q0. He gives filter design values which correct the shape of the filter for the effects due to not using perfect (infinite Q resonators) and he also gives the filter insertion loss, dB, to be expected. If such a filter is used in front of a low noise pre-amp, then the filter loss must be added to the noise figure of the amplifier function.

There is, naturally, a strong interest in making filters with enough rejection to eliminate overload from unwanted signals, and yet still allow good enough noise factor not to ruin an otherwise good preamp. This is a classic dilemma, if I could make my pre-amp have better big signal handling, I could use a milder filter and get the benefit of less insertion loss, hence better system noise factor.

What is not realised by many people is that the tables in Zverev, from which most modern filter books are derived, in fixing the filter shape to correct for limited resonator Q (a process called pre-distorted design) sacrifices insertion loss in order to get accurate shape. This means that if you don't pre-distort your design, and accept a poor looking shape, you can get less insertion loss for the same rejection further out.

Seymour B Cohn wrote a paper showing a way to design coupled resonator bandpass filters for minimum insertion loss rather than ideal passband flatness. There is a nice comparison of the insertion losses of the different approaches, and the passband shapes they give. Cohn's optimised filters have lumps in their responses, fairly high up the skirts.

(The paper is "Dissipation in multiple-coupled-resonator filters" Proceedings or the IRE August 1959, page 1342 to 1348)

It's heavy going to read, but the pictures tell the story :-)

Cheers

David GM4ZNX

Date: 4 Apr 93 17:53:53 GMT From: news-mail-gateway@ucsd.edu Subject: RACES Bulletin #268

To: info-hams@ucsd.edu

Bid: \$RACESBUL.268

TO: ALL EMERGENCY MANAGEMENT AGENCIES/OFFICES VIA THE ARS

INFO: ALL RACES OPERATORS IN CA (ALLCA: OFFICIAL)

ALL AMATEURS U.S. (@ USA: INFORMATION)

FROM: AUXILIARY RADIO SERVICE

CA STATE OFFICE OF EMERGENCY SERVICES (W6HIR @ WA6NWE.CA) 2800 Meadowview Rd., Sacramento, CA 95832 (916)262-1603

Landline BBS (FIDO) open to all: (916) 262-1657

RACESBUL.268 DATE: April 5, 1993

SUBJECT: TNG - GLOSSARY FOR COMMUNICATORS - Part 1/2

In a recent meeting with volunteers it was apparent that we in government take it for granted that new staff, paid or volunteer, will not necessarily know the meaning of frequently used initials and acronyms. This list is not all inclusive and some of these are used only in California:

ARES Amateur radio Emergency Service

ACS Auxiliary Communications Service. What some governments call their

RACES plus non-ham communications resources.

ARS Auxiliary Radio Service. Similar to ACS.

BLM Bureau of Land Management

CALCORD California On-Scene Emergency Coordination radio plan

Caltrans California Department of Transportation

CAP Civil Air Patrol

CCDN California Civil Defense Net (name of State RACES net 1950-1992)
CDF California Department of Forestry and Fire Protection. (Remember that "Forestry" is always State; Forest Service is Federal.)

CESN California Emergency Services Net (formerly called the CCDN)

CESRS CA Emergency Services Radio System (formerly known as the "LG system.)

CHP California Highway Patrol
DAC Disaster Assistance Center

DCS Disaster Communications Service. What Los Angeles County calls

their RACES

DFO Disaster Field Office

DOT Department of Transportation
DWR Department of Water Resources
EBS Emergency Broadcast System

EDIS Electronic Digital Information Service

EMP Electromagnetic pulse

EMS Emergency Medical Service(s)
EOC Emergency Operations Center

EOF End of File

EOM End of Message. (Same as EOM)

FEMA Federal Emergency Management Agency

REPLY TO W6HIR@WA6NWE.#NOCAL.CA.USA.NA

Continued in the next Bulletin

EOM

RACES Bulletins are archived on the Internet at ucsd.edu in hamradio/races and can be retrieved using FTP.

Date: Fri, 2 Apr 1993 14:43:03 MST

From: access.usask.ca!kakwa.ucs.ualberta.ca!alberta!nebulus!ve6mgs!rec-radio-

info@decwrl.dec.com

Subject: Two-Line Orbital Element Set Format

To: info-hams@ucsd.edu

As a service to the satellite user community, the following description of the NORAD two-line orbital element set format is uploaded to sci.space.news and rec.radio.amateur.misc on a monthly basis. The most current orbital elements from the NORAD two-line element sets are carried on the Celestial BBS, (513) 427-0674, and are updated daily (when possible). Documentation and tracking software are also available on this system. The Celestial BBS may be accessed 24 hours/day at 300, 1200, 2400, 4800, or 9600 bps using 8 data bits, 1 stop bit, no parity. In addition, element sets (also updated daily) and some documentation and software are also available via anonymous ftp from archive.afit.af.mil (129.92.1.66) in the directory pub/space.

Data for each satellite consists of three lines in the following format:

AAAAAAAAA

- 1 NNNNU NNNNAAA NNNN NNNNNNNN +.NNNNNNN +NNNNN-N +NNNNN-N N NNNNN

Line 0 is a eleven-character name.

Lines 1 and 2 are the standard Two-Line Orbital Element Set Format identical to that used by NORAD and NASA. The format description is:

Line 1

```
Column
           Description
 01-01
           Line Number of Element Data
 03-07
           Satellite Number
 10-11
           International Designator (Last two digits of launch year)
           International Designator (Launch number of the year)
 12-14
 15-17
           International Designator (Piece of launch)
 19-20
           Epoch Year (Last two digits of year)
 21-32
           Epoch (Julian Day and fractional portion of the day)
 34-43
           First Time Derivative of the Mean Motion
        or Ballistic Coefficient (Depending on ephemeris type)
 45-52
           Second Time Derivative of Mean Motion (decimal point assumed;
           blank if N/A)
 54-61
           BSTAR drag term if GP4 general perturbation theory was used.
           Otherwise, radiation pressure coefficient. (Decimal point assumed)
 63-63
           Ephemeris type
 65-68
           Element number
 69-69
           Check Sum (Modulo 10)
           (Letters, blanks, periods, plus signs = 0; minus signs = 1)
Line 2
Column
           Description
 01-01
           Line Number of Element Data
 03-07
           Satellite Number
 09-16
           Inclination [Degrees]
 18-25
           Right Ascension of the Ascending Node [Degrees]
 27-33
           Eccentricity (decimal point assumed)
 35-42
           Argument of Perigee [Degrees]
 44-51
           Mean Anomaly [Degrees]
 53-63
           Mean Motion [Revs per day]
 64-68
           Revolution number at epoch [Revs]
 69-69
           Check Sum (Modulo 10)
All other columns are blank or fixed.
Example:
NOAA 6
1 11416U
                  86 50.28438588 0.00000140
                                                     67960-4 0 5293
2 11416 98.5105 69.3305 0012788 63.2828 296.9658 14.24899292346978
Dr TS Kelso
                                      Assistant Professor of Space Operations
tkelso@afit.af.mil
                                     Air Force Institute of Technology
```

Date: 4 Apr 93 23:32:40 GMT From: news-mail-gateway@ucsd.edu

Subject: WARNING: Potential Geomagnetic Storm Warning

To: info-hams@ucsd.edu

POTENTIAL MAJOR GEOMAGNETIC STORM WARNING

ISSUED: 23:00 UT, 04 APRIL

HIGH RISK PERIOD: 05 Apr (UT days)

MODERATE RISK PERIOD: 05 Mar - 06 Mar

POTENTIAL LOW-MIDDLE LATITUDE STORM INTENSITY: MINOR

POTENTIAL HIGH LATITUDE STORM INTENSITY: MINOR - MAJOR

POTENTIAL DURATION OF GEOMAGNETIC STORM: 36 HOURS

POTENTIAL PEAK LOW-MIDDLE LATITUDE K-INDEX VALUES: 6

POTENTIAL PEAK HIGH LATITUDE K-INDEX VALUES: 7

EXPECTED DOMINATING LOW-MIDDLE LATITUDE K-INDEX: 4 - 5

EXPECTED DOMINATING HIGH LATITUDE K-INDEX: 5 - 6

POTENTIAL FOR LOW LATITUDE HF DEGRADATION: MODERATE

POTENTIAL SEVERITY OF HF DEGRADATION: MINOR EXPECTED HF PROPAGATION CONDITIONS: GOOD

POTENTIAL FOR MIDDLE LATITUDE HF DEGRADATION: MODERATE TO HIGH

POTENTIAL SEVERITY OF HF DEGRADATION: MINOR

EXPECTED HF PROPAGATION CONDITIONS: GOOD - OCCASIONALLY POOR

POTENTIAL FOR HIGH LATITUDE HF DEGRADATION: HIGH

POTENTIAL SEVERITY OF HF DEGRADATION: MINOR - MAJOR

EXPECTED HF PROPAGATION CONDITIONS: POOR TO OCCASIONALLY USELESS

POTENTIAL RISK FOR GEOSYNCHRONOUS MAGNETOPAUSE CROSSINGS: ALREADY OBSERVED

SUSPECTED SOURCE OF OBSERVED/EXPECTED ACTIVITY:

Well placed coronal hole or possible filament eruption.

SEVERE STORM : 20 % LOW LATITUDES : MINOR MAJOR STORM : 30 % MIDDLE LATITUDES : MINOR

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HIGH LATITUDES : MINOR - MAJOR
        MINOR STORM : 40 %
     ACTIVE OR LESS : 10 %
                                        POLAR LATITUDES : MINOR - MAJOR
 PROBABLE SI ASSOCIATION : OBSERVED
                                         ESTIMATED GLOBAL IMPACT: MINOR
** End of Warning **
Date: Mon, 5 Apr 1993 05:47:05 GMT
From: usc!wupost!darwin.sura.net!rouge!cfm1471@network.UCSD.EDU
To: info-hams@ucsd.edu
References <gtaylor.111@taex003n.tamu.edu>,
<1993Apr2.235248.28256@nntpd2.cxo.dec.com>,
<1993Apr3.010600.9905@cbnewsm.cb.att.com>
Subject : Re: Worked Him????
In article <1993Apr3.010600.9905@cbnewsm.cb.att.com> jeffj@cbnewsm.cb.att.com
(jeffrey.n.jones) writes:
>In article <1993Apr2.235248.28256@nntpd2.cxo.dec.com>
jepsen_st@10540.enet.dec.com (10540::jepsen_st) writes:
>>>Last night I worked NF6***/KP1 at 0238 UTC. I was hoping that someone
>>>could fill in the rest. Namely, the rest of his call and if this was
>>>Navassa Island. He was sending just above the range where I can copy
>>If you didn't even get his call or QTH, how can you claim to have
>>'worked him'?
>>Steve...AI7W
>Well the only reason I had questions about the KP1 was I thought that
>Navassa Island could only be reached via a major dxepidition. I was certain
>it was KP1 but maybe it was a case of thinking to much that made me question
>it. I spent a hour trying to copy his call after I worked him! I had
>NF6?/KP1. Knew that he was on Navassa island after consulting my chart
>of calls and had his call just missing one letter. Let's see, oh yes, I
>heard him, he heard me, I sent him a report, he sent me a report. Hmmm,
>sounds like a contact to me. Maybe not a perfect one. Anyway in the
>log it goes and a QSL card is on it's way. As this is the second comment
>I have had on the validity of QSO all I can say is "Sorry guys, it's
>valid to me and to the DX and that's all that really matters." 73!
>Jeff
>--
```

Jeff, sorry to tell ya, but if you were to try that on a dx net, or

if the guys at DXCC knew, wrong, you wouldnt get credit for the contact. For a valid contact, you HAVE to receive the guys callsign. Ok, to u i send a 599 but i dont know who ab6mb is, but i know who kc6skv is. So what, i had to look it up on the callbook, and that is'nt right. A valid contact is more then just a 599. He could have been /KP anything How can u copy the /KP1 and not the call if you listened for hours? You have got to have at least a valid exchange, RR ab6mb ur 599 de xxxx/kp1. rr xxxx/kp1 tu 599 de ab6mb. If you didnt get it, ur cll agn pse de ab6mb.

Count it if you want, but if someone has to tell you the callsign, your cheatin, and you just as soon make up a whole slew of calls and send them in, because hey, who cares, its the honor system right?

Think about it, did you get his call on the air, or over Usenet? Is that a valid contact?

Charlie

| Charles Morrison | cfm1471@ucs.usl.edu | These are my views, | KI5XP | ki5xp@ucs.usl.edu | NOT anyone elses! | U. of SouthWestern | ki5xp@ki5xp.aara.org | But who cares? | La. | KI5XP @ K5ARH.LA | | Lafayette, La 70506 | |

Date: (null)
From: (null)

- -

Jim Reisert Internet: reisert@mast.enet.dec.com

Digital Equipment Corp. UUCP: ...decwrl!mast.enet.dec.com!reisert

146 Main Street - ML03-6/C9 Voice: 508-493-5747

Maynard, MA 01754 FAX: 508-493-0395

End of Info-Hams Digest V93 #420 ***********